



IMPACT OF FLIPPED CLASSES ON KNOWLEDGE REGARDING HIV POST EXPOSURE PROPHYLAXIS AMONG DENTAL STUDENTS

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ABSTRACT

Background: Health care professionals are constantly exposed to numerous occupational hazards. They are at greater risk of developing blood borne infections especially dentist who handle body fluids of the oral cavity. It has been reported that nearly 3 million healthcare workers suffer percutaneous exposure each year. (Amita Gupta et al, 2008). In the past few years there has been a substantial rise in the use of internet in teaching and learning paradigm, i.e the flipped classroom. With the proliferation of Internet technology, virtual communications, and learning management systems, many students are interested in a flipped classroom. Aim The main aim of the present study is to assess the impact of flipped classes on knowledge regarding post exposure prophylaxis among dental students in India Gandhi Institute of Dental Sciences (IGIDS), Puducherry.

Materials and Methods: Quasi experimental design was chosen for the study. 60 students studying final year BDS course, in Indira Gandhi Institute Of Dental Sciences, (IGIDS) Puducherry were selected as samples using purposive sampling technique. Data was collected through self-administered structured questionnaire. After the data collection the students attended the flipped classes as per the schedule. The post-test was done after an interaction class.

Results: The pre-test score on level of knowledge regarding post exposure prophylaxis revealed that 47(78.3%) dental student had poor knowledge, 13(21.7%) of them had moderate knowledge and none had adequate knowledge. The post-test score on the level of knowledge regarding post exposure prophylaxis revealed that 12(20%) had moderate knowledge, 48(80%) of them had adequate knowledge and none had poor knowledge. The mean knowledge during pre-test was 11.95 with standard deviation of 3.296 whereas after flipped classes the mean score was increased to 24.25 with standard deviation of 2.245. The improvement was statistically tested by paired t-test which was found to be statistically significant at $p < 0.001$ implicating the effectiveness of flipped classes in improving the knowledge regarding post exposure prophylaxis.

KEY WORDS: Assess, Flipped classes, Knowledge, Impact, post exposure prophylaxis, Final year dental students.

INTRODUCTION:

A Health care industry comprising the physician, nurses, and other healthcare workers provide preventive, curative, promotional and palliative care services in a systematic way to individuals. Health care professionals are constantly exposed to numerous occupational hazards. They are at greater risk of developing blood borne infections including dental students. The WHO estimates that there are 9.2 million physicians and 1.9 million dentists making the health care industry one of the largest work forces.¹

In developing countries like India, the risk of occupational transmission of blood-borne pathogens is increased by excessive handling of contaminated needles that result from unsafe practices like administration of unnecessary injections on demand, the reuse of non-sterile needles, capping needles, and the unregulated disposal of hazardous waste. In India it was estimated that 24 lakhs health care workers may have HIV infection. National hepatitis surveillance data shows that 400 health workers were affected. Health care professionals are constantly exposed to numerous occupational hazards. Avoiding occupational blood exposures is the primary way to prevent transmission of hepatitis B virus (HBV), Hepatitis C virus (HCV), and Human immunodeficiency virus (HIV) in health care settings.³

Dentistry is probably the most common group exposed to needle stick injuries and contact with oral infectious fluids. Hence it is utmost important that they must know how to protect themselves from this potential but devastating professional health hazard.⁶

Post exposure prophylaxis (PEP) is currently the only way to reduce the risk of blood borne infection if exposed to the virus. In the past few years there has been a substantial rise in the use and interest in teaching and learning paradigm, i.e. the flipped classroom. As the classroom continues to modernize, pedagogical approaches such as the flipped classroom should be considered for many lecture-style courses taught in the health sciences.¹¹

OBJECTIVES:

- To assess the knowledge regarding post exposure prophylaxis among final year BDS students in IGIDS.
- To assess the impact of flipped classes on post exposure prophylaxis among final year BDS students.
- To associate the level of knowledge on post exposure prophylaxis with selected demographic variable.

METHODOLOGY:

Research Approach:

The research approach used for the study was Quantitative research, to assess the effectiveness of flipped classes on knowledge of post exposure prophylaxis among final year BDS students in Indira Gandhi Institute of Dental Sciences, Pillayarkuppam Puducherry.

Research Design:

Quasi experimental research design was adopted for the study. – One group pre-test and post-test design.

Setting of The Study:

Indira Gandhi Institute Of Dental Science is situated in MGMC&RI campus, Puducherry. The study was conducted in Indira Gandhi Institute of Dental Science for the students who are undergoing BDS final year.

Study Population:

The target population includes Final year BDS students in IGIDS.

Sample and Sample Size:

The samples selected for the study were 60 students from final year BDS in IGIDS.

Sampling Technique:

The samples who met the criteria during the data collection were selected Purposive sampling technique.

Criteria for Sample Selection:

Inclusion Criteria:

- Students undergoing final year BDS Programme in IGIDS

Exclusion Criteria:

- Students who availed leave during data collection period.
- Students who have attended training programme on blood borne infections such as HIV/Hepatitis B, C.

RESULTS AND INTERPRETATION:

Background variables:

- With regard to the age and gender 5(8.3%) were in the age group of 19-20 years, 55(91.7%) were between the age group of 21-22 years. and 44(73.3%) were female, 16(26.7%) were male. Among the 60 sample 45(75%), were Hindus, 11(18.3%) were Christians, 4(6.7%) Muslim. Regarding the area of

residence 20(33.3%) resided in Rural area, 10(16.7%) resided in Urban area, 30(50%) resided in hostel. Pertaining to the educational status of their parents 55(91.7%) parents were literate and only 5(8.3%) parents non literate. With regard to type of family 15(25%) belong to joint family, 45(75%) belong to nuclear family. On interrogating the history of previous exposure to the blood borne infection 5(8.3%) had been exposed to Hepatitis B, 55(91.7%) had no history previous exposure to infection. With regard to presence of the health professionals in their family 18(30%) had health professionals whereas 42(70%) had no health professional in their family. Pertaining to history of previous knowledge regarding post exposure prophylaxis all 60(100%) students had previous knowledge through regular classes as per syllabus. had attended the previous classes.

Table 1: Frequency and Percentage of Pre Test and Impact of Flipped Classes Regarding Post Exposure Prophylaxis Among Final Year Bds Students.

N=60

Sr. No.	Knowledge Level of Students	Pre Test		Post Test	
		N	%	N	%
1	Poor	47	78.3	-	-
2	Moderate	13	21.7	12	20
3	Adequate Knowledge	-	-	48	80

Knowledge Level of final year BDS students

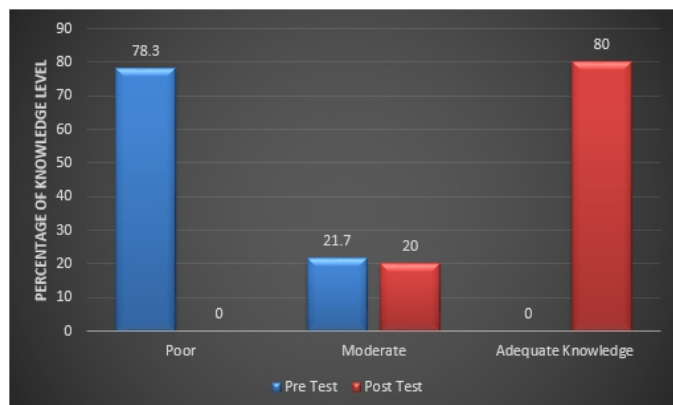


Table 1, Figure 1: Shows the pre- test knowledge score out of which 47(78.3%) had poor knowledge, 13(21.7 %) had moderate knowledge and none of them had adequate knowledge on Post Exposure Prophylaxis, where as in the post-test none of them had poor knowledge, 12(20%) had moderate knowledge and 48(80%) had adequate knowledge.

Table 2: Comparison of Mean Pre Test and Impact of Flipped Classes on Post Exposure Prophylaxis Among Final Year Bds Students

Knowledge	Mean	Std. Deviation	Std. Error Mean	T-Test	P-Value
Pre Test	11.95	3.296	0.425	-25.423	<0.001
Post Test	24.25	2.245	0.29		

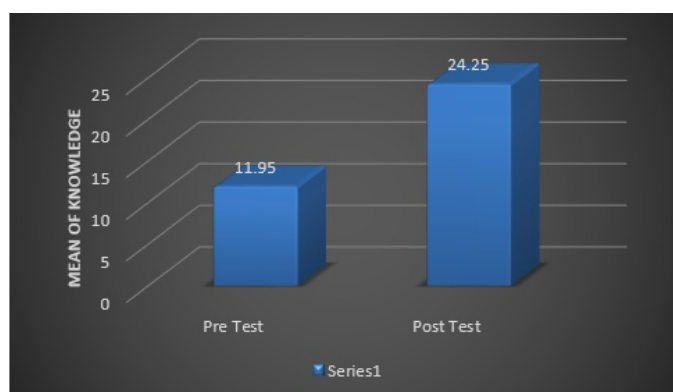


Table 2, Figure 2: Reveals the pre-test knowledge score which was 11.95 with standard deviation of 3.296 and after flipped classes the post- test knowledge mean score increased to 24.25 with the standard deviation of 2.245. This improvement in knowledge was statistically tested by paired t-test which was found to be statistically significant at $P < 0.001$ level strongly indicating the impact of flipped classes in improving the knowledge regarding post exposure prophylaxis.

Table 3: Association Between the Knowledge Score Regarding Post Exposure Prophylaxis and Selected Demographic Variables.

Demographic Variables		Knowledge level in Pre-Test		Total	Chi-square	P-Value
		Poor	Moderate			
Age\$	19 – 20 years	1	4	5	10.936	0.006*
	21 -22 years	46	9	55		
Sex\$	Male	38	6	44	6.269	0.029*
	Female	9	7	16		
Religion	Hindu	36	9	45	2.580	0.275
	Christian	7	4	11		
	Muslim	4	0	4		
Residential Area	Rural Area	16	4	20	0.491	0.782
	Urban Area	7	3	10		
	Hostel	24	6	30		
Education Status\$	Literate	42	13	55	1.509	0.575
	Non Literates	5	0	5		
Type of Family	Join Family	13	2	15	0.931	0.628
	Nuclear Family	34	11	45		
History of Previously Exposure\$	Hepatitis B	3	2	5	1.080	0.295
	None of the above	44	11	55		
Health Professional in the family\$	Yes	14	4	18	0.005	1.000
	No	33	9	42		
History of Previous knowledge regarding PEP	Regular classes as per syllabus	47	13	60	-	-

\$ Fisher's Exact Test applied*

Significant at 5% ($p < 0.05$)

Table 3 depicts the association between the knowledge score regarding post exposure prophylaxis and selected demographic variables in which the selected demographic variables such as age and sex alone had significant association with the knowledge regarding post exposure prophylaxis with $p < 0.006$ and $p < 0.029$, respectively whereas the other demographic variables such as Religion, residential area, educational status, type of family, history of previous exposure, health professional in the family and history of knowledge regarding post exposure prophylaxis did not have any association.

DISCUSSION:

The objective of the study was to assess the impact of flipped classes on post exposure prophylaxis among final year BDS students. Regarding the impact of flipped classes the data analysis revealed that the pre-test knowledge mean score was 11.95 with standard deviation of 3.296 and after flipped classes the post- test knowledge mean score increased to 24.25 with the standard deviation of 2.245. This improvement in knowledge was statistically tested by paired t-test which was found to be statistically significant at $P < 0.001$ level strongly indicating the effectiveness of flipped classes in improving the knowledge regarding post exposure prophylaxis.

CONCLUSION:

Education plays a vital role in everyone's day today life. In order to accommodate the current generation in education, it is important to devise the new teaching methods that align with their learning styles and expectation. The present study revealed the effectiveness of flipped classes of method of teaching has good impact in knowledge gained by the students. So, this method of teaching can be promoted as a general method of teaching the students.

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